Surface Water Intake Protection

Upper Mississippi River Forum

Surface Water Intake Protection Background

- 1996 Amendments to the Safe Drinking Water Act required MDH to prepare Source Water Assessment (SWA).
- Outgrowth of SWA.
- Requested by public water suppliers.
- Not mandatory in MN.
- Minnesota Department of Health convened a workgroup.
- Report release early 2004.
- Needs to be revised.

Goals of SWP Planning

- Provide a consistent and agreed upon methodology for Minnesota.
- Identify drinking water goals and management strategies that can be integrated into existing plans and programs.
- Include public participation in plan development and implementation.

Multi-Barrier Approach

- Standards and Treatment.
- Distribution of the Water.
- User Information.
- Prevention – Source Water Protection.

Why Emphasize Prevention?

- More effective and cost-efficient.
- Protect large community investment in public water supply system, which is needed for growth and development.
- Protect public health from short-term or long-term effects of consuming contaminated drinking water.

Meaning of Source Water Protection(SWP)

- Measures have been implemented or are in the process of being implemented to reduce the risk of potential contamination of the source water.

Goals of SWP

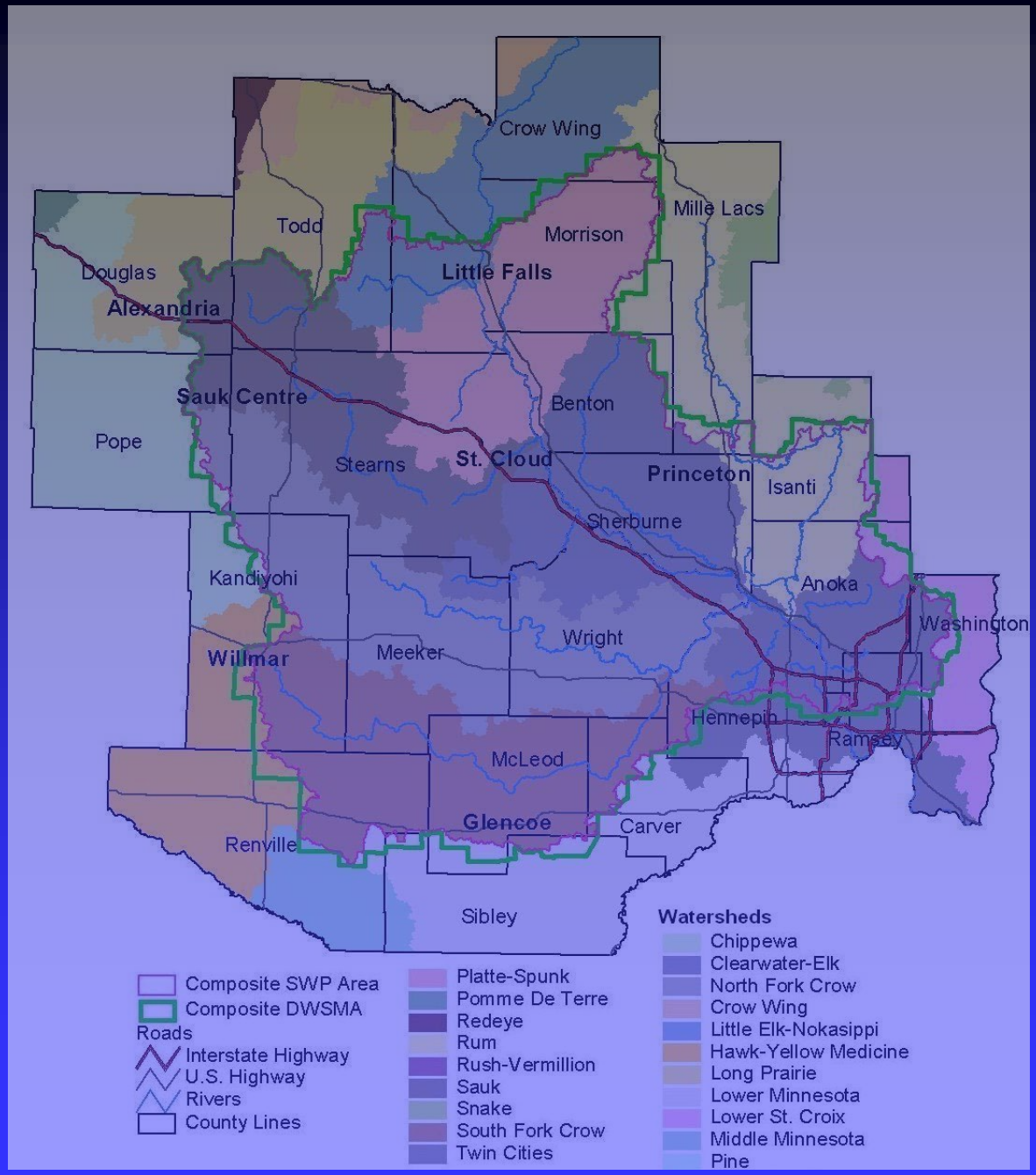
- Address acute and chronic health.
- Implementation buy-in.
- Cost-effectiveness.
- Sustainable source water resource.
- Pollutant reduction.

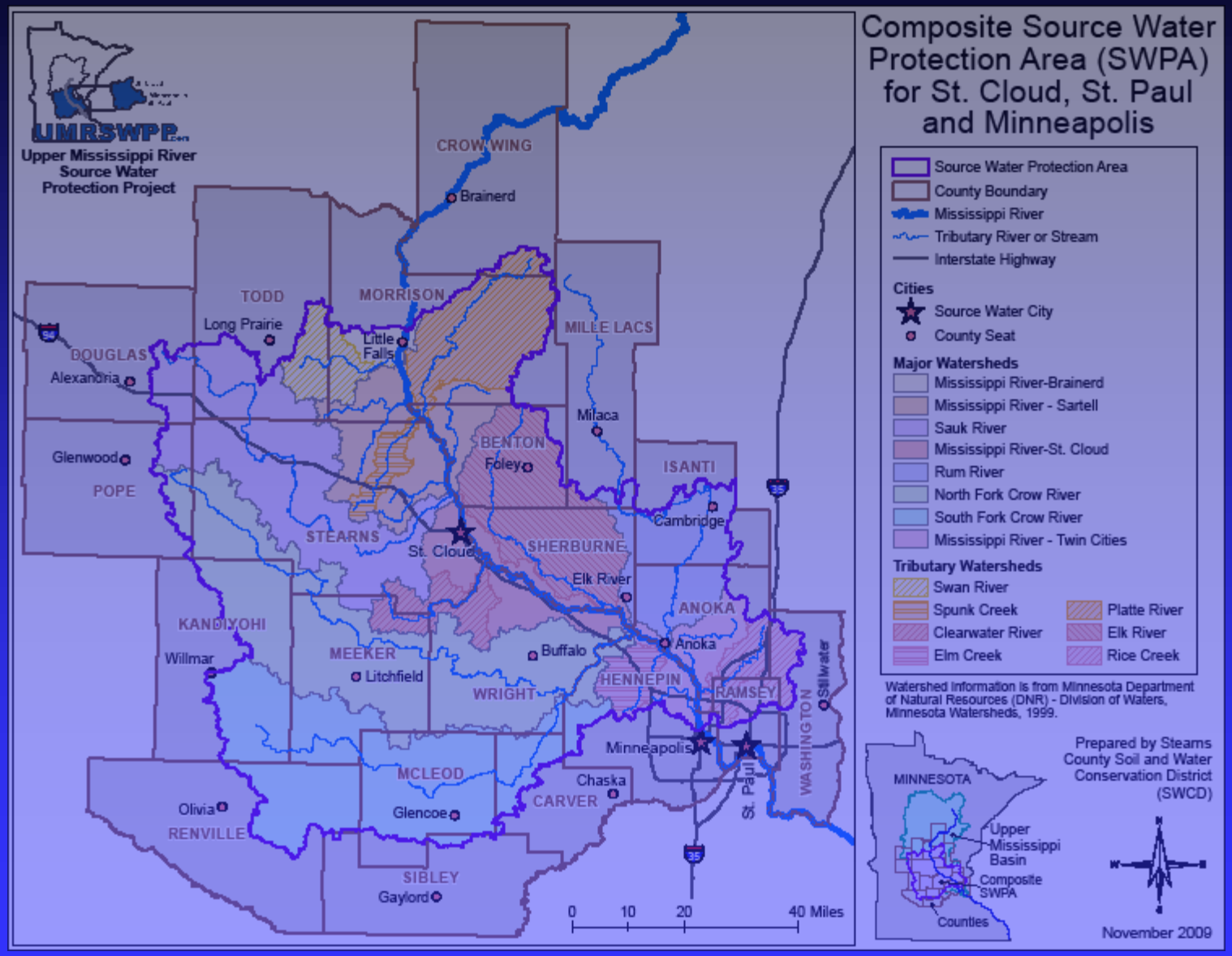
Surface Water Intake Protection Plan

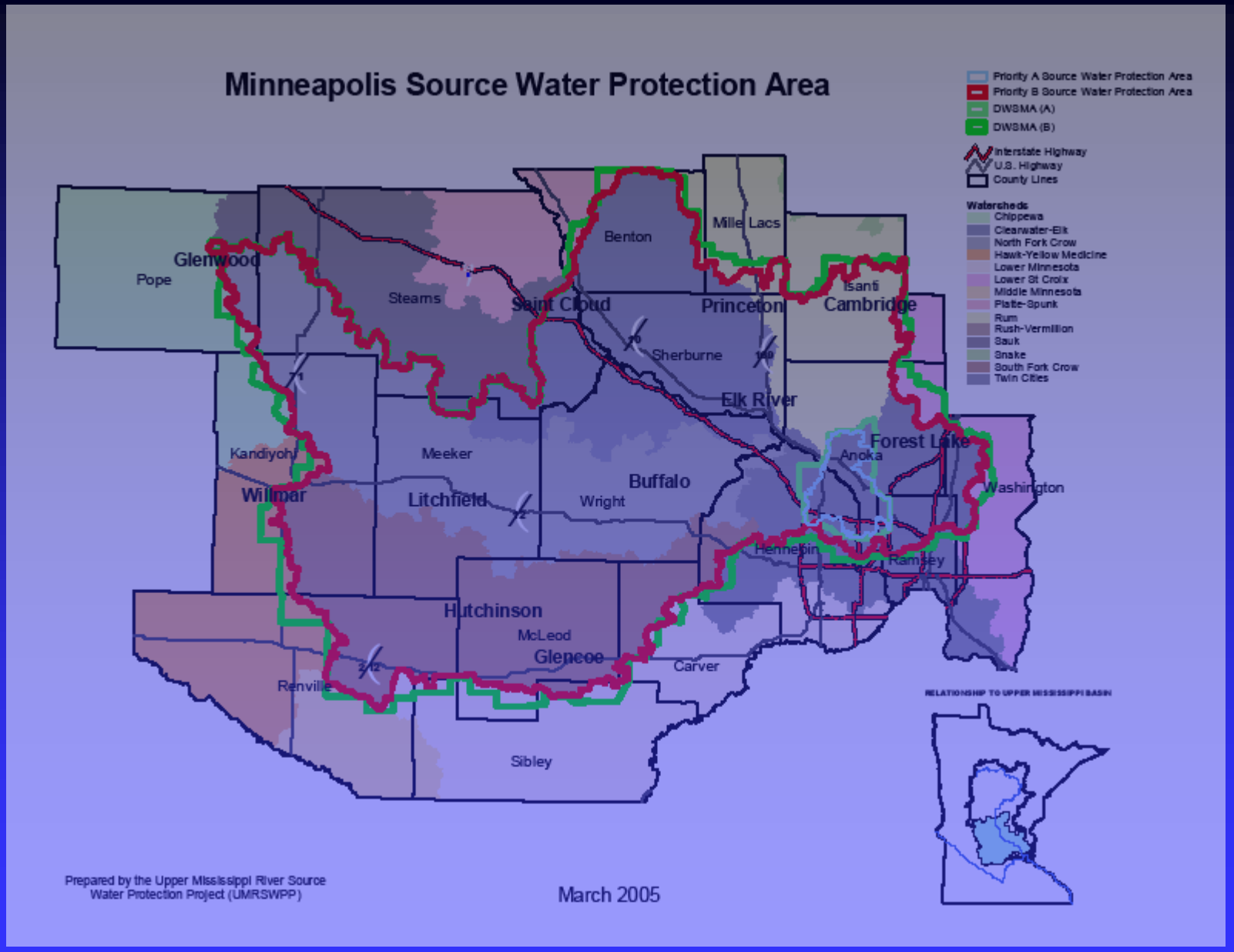
- A document which includes:
  - delineation of the SWPA and DWSMA.
  - an assessment of the system's sensitivity and susceptibility to contamination.
  - description of potential contaminant sources,
  - identification of management strategies to prevent the contamination of the source water.

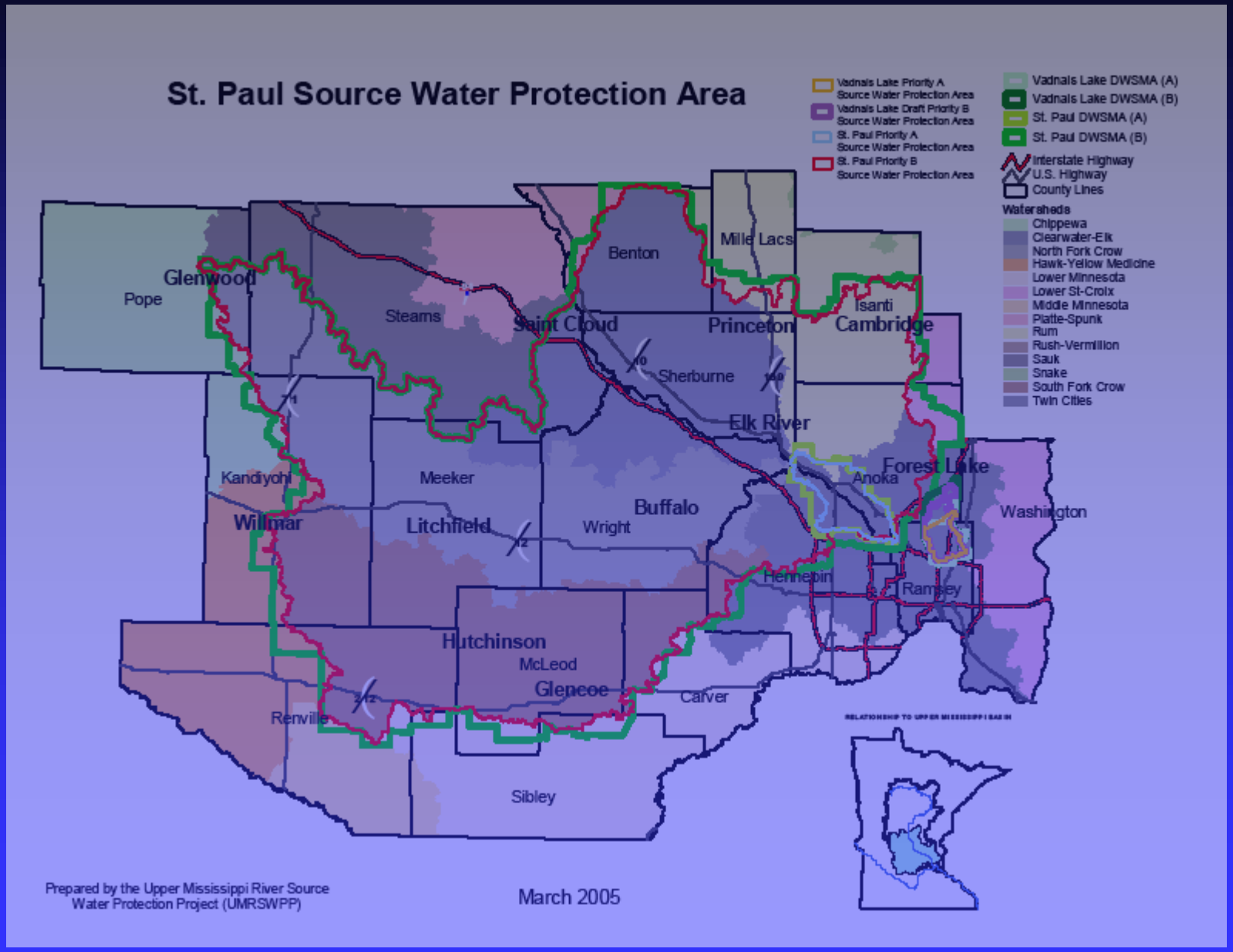
Current Status

- Pilot Project with Minneapolis, St. Paul and St. Cloud have been endorsed by MDH.


Crow Wing
Mille Lacs
Todd
Morrison
Douglas
Little Falls
Alexandria
Sauk Centre
Benton
Pope
Stearns
St. Cloud
Princeton
Isanti
Sherburne
Kandiyohi
Anoka
Washington
Wright
Willmar
Meeker
Hennepin
Ramsey
McLeod
Glencoe
Carver
Renville
Sibley
Composite SWP Area
Composite DWSMA
Roads
Interstate Highway
U.S. Highway
Rivers
County Lines
Platte-Spunk
Pomme De Terre
Redeye
Rum
Rush-Vermillion
Sauk
Snake
South Fork Crow
Twin Cities
Watersheds
Chippewa
Clearwater-Elk
North Fork Crow
Crow Wing
Little Elk-Nokasippi
Hawk-Yellow Medicine
Long Prairie
Lower Minnesota
Lower St. Croix
Middle Minnesota
Pine


UMRSWPP.com
Upper Mississippi River Source Water Protection Project
Composite Source Water Protection Area (SWPA) for St. Cloud, St. Paul and Minneapolis
CROW WING
Brainerd
TODD
MORRISON
Long Prairie
Little Falls
MILLE LACS
DOUGLAS
Alexandria
Milaca
BENTON
Foley
Glenwood
POPE
ISANTI
Cambridge
STEARNS
St. Cloud
SHERBURNE
Elk River
ANOKA
KANDIYOHI
Willmar
MEEKER
Litchfield
Buffalo
Anoka
HENNEPIN
RAMSEY
WRIGHT
Stillwater
WASHINGTON
Minneapolis
St. Paul
MCLEOD
Chaska
CARVER
Olivia
Glencoe
RENVILLE
SIBLEY
Gaylord
0 10 20 40 Miles
Source Water Protection Area
County Boundary
Mississippi River
Tributary River or Stream
Interstate Highway
Cities
Source Water City
County Seat
Major Watersheds
Mississippi River-Brainerd
Mississippi River - Sartell
Sauk River
Mississippi River-St. Cloud
Rum River
North Fork Crow River
South Fork Crow River
Mississippi River - Twin Cities
Tributary Watersheds
Swan River
Spunk Creek
Clearwater River
Elm Creek
Platte River
Elk River
Rice Creek
Watershed information is from Minnesota Department of Natural Resources (DNR) - Division of Waters, Minnesota Watersheds, 1999.
MINNESOTA
Upper Mississippi Basin
Composite SWPA
Counties
Prepared by Stearns County Soil and Water Conservation District (SWCD)
November 2009


Minneapolis Source Water Protection Area
Priority A Source Water Protection Area
Priority B Source Water Protection Area
DWSMA (A)
DWSMA (B)
Interstate Highway
U.S. Highway
County Lines
Watersheds
Chippewa
Clearwater-Elk
North Fork Crow
Hawk-Yellow Medicine
Lower Minnesota
Lower St Croix
Middle Minnesota
Platte-Spunk
Rum
Rush-Vermillion
Sauk
Snake
South Fork Crow
Twin Cities
Glenwood
Pope
Stearns
Benton
Mille Lacs
Saint Cloud
Princeton
Isanti
Cambridge
Sherburne
Elk River
Kandiyohi
Meeker
Wilmar
Litchfield
Buffalo
Wright
Forest Lake
Anoka
Washington
Hennepin
Ramsey
Hutchinson
McLeod
Glencoe
Carver
Renville
Sibley
RELATIONSHIP TO UPPER MISSISSIPPI BASIN
Prepared by the Upper Mississippi River Source Water Protection Project (UMRSWPP)
March 2005


St. Paul Source Water Protection Area
Vadnais Lake Priority A Source Water Protection Area
Vadnais Lake Draft Priority B Source Water Protection Area
St. Paul Priority A Source Water Protection Area
St. Paul Priority B Source Water Protection Area
Vadnais Lake DWSMA (A)
Vadnais Lake DWSMA (B)
St. Paul DWSMA (A)
St. Paul DWSMA (B)
Interstate Highway
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Benton
Mille Lacs
Saint Cloud
Princeton
Isanti
Cambridge
Sherburne
Elk River
Kandiyohi
Willmar
Meeker
Litchfield
Buffalo
Wright
Anoka
Forest Lake
Washington
Hennepin
Ramsey
Hutchinson
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Renville
Sibley
Prepared by the Upper Mississippi River Source Water Protection Project (UMRSWPP)
March 2005

Priority Contaminants of Concern

- List of EPA's Drinking Water Standards.
- Total suspended solids.
- Cryptosporidium.
- Nutrients.
- Pesticides.
- Organic solvents.
- Pharmaceuticals..
- Endocrine-disrupting chemicals.
- Radioactive materials.

Reasons for Concern

- High levels of certain contaminants.
- Limitation of water treatment measures.
- Contributes to the formation of disinfection byproducts.
- Lack of monitoring data.
- Lack of knowledge regarding the contaminant, sources and health effects.

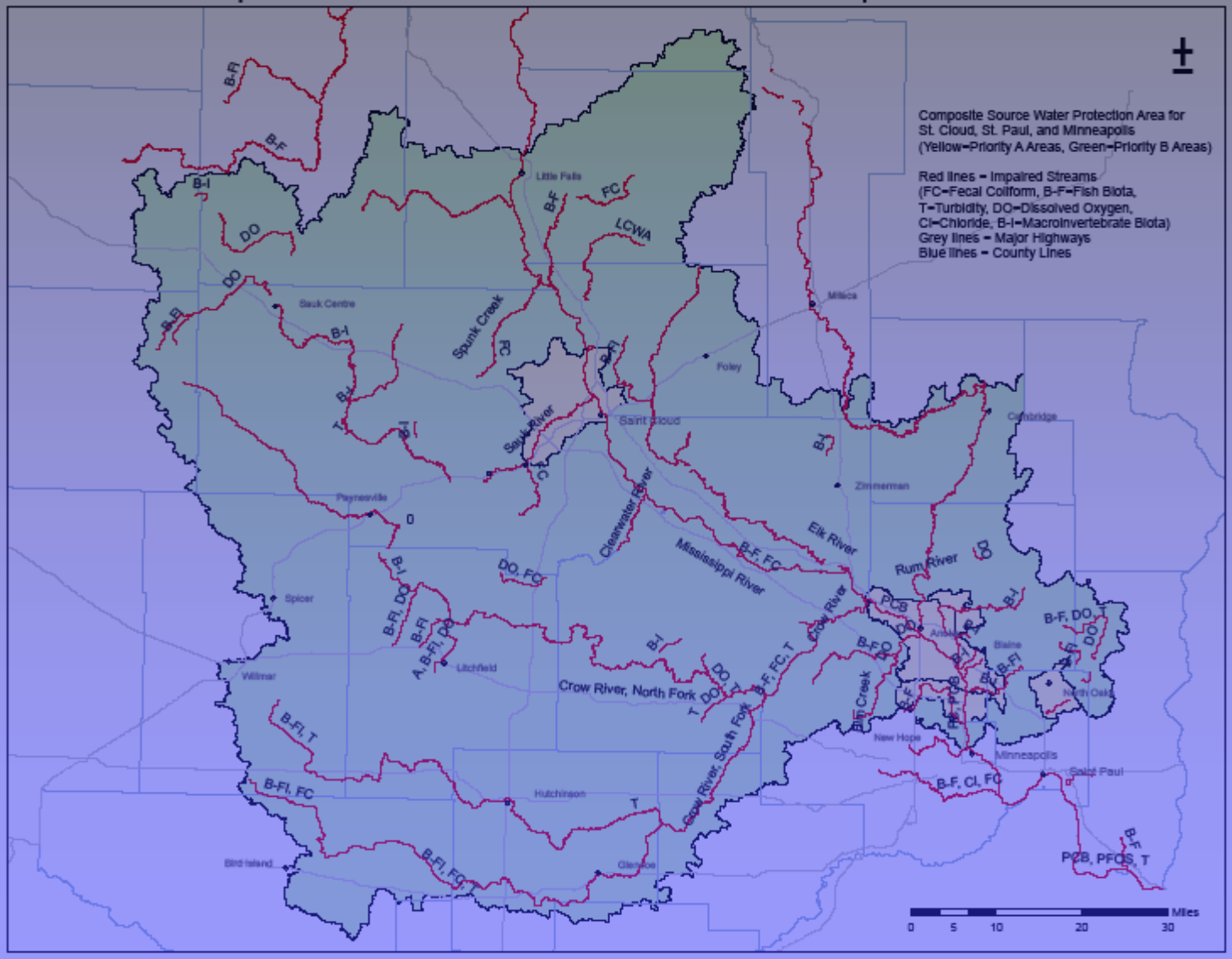
Management Strategies

- Public Education- Use of the river as a source of drinking water .
- Spill Response – River Defense Network.
- Support watershed management – Meeting with water management groups.
- Stormwater management – MS4 Cities required to address impacts on drinking water sources.

Management Strategies Cont'd

- TMDL Program –Joint efforts on the Upper Miss Project.
- Shoreland Program – Include drinking water concerns rule revisions.
- Surface Water Classification – Aligning PCA classification with the SWP areas.

Composite Source Water Protection Area and Impaired Streams



The Challenges

- Balance of competing uses of the river when various entities oversee these uses.
- Communicate the fact that the Mississippi River is a source of drinking water.
- Develop and communicate consistent and appropriate messages.
- Integrate the Clean Water Act and the Safe Drinking Water Act.

QUESTIONS???